Anirudh Singhal | **16D070032**
Electrical Engineering | **UG Third Year (Dual Degree)**
Indian Institute of Technology Bombay | **Male**
Specialization: Communication and Signal Processing | **DOB: 18.05.1998**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2019	9.25

Pursuing a **Minor Degree** in **Computer Science and Engineering** Department with minor degree CPI of **9.5**

SCHOLASTIC ACHIEVEMENTS

- Awarded **AP Grade** for outstanding performance in the course on **Network Theory** *2017*
- Secured **All India Rank 368** out of 1.5 lakh candidates in **JEE Advanced** *2016*
- Recipient of prestigious **Kishore Vaigyanik Protsahan Yojana**(KVPY) Scholarship *2015*
- Awarded certificate of merit for statewise **top 1%** in **National Standard Examination in Physics** *2015*
- Qualified for **Indian National Chemistry Olympiad** (INChO) based on performance in NSEC *2015*

INTERNSHIP

OkCredit, Bangalore *May'18-Jul'18*

OkCredit is a mobile based digital ledger for small businesses in India that extend credit to their customers

- Designed infrastructure to collect user interactions from the mobile app for targeted communication with them
  - Built a server in **Google Go** to store data in a **Cassandra** database and transfer it to **Amazon S3** daily
  - Created an **Android Library** to store the user data locally and send it to the server
- Developed user authentication service in Google Go based on **Oauth 2.0** for mobile and web applications

POSITIONS OF RESPONSIBILITY

Subsystem Leader, Electrical Subsystem, Advitiy *Feb'18-Present*

Advitiy is the 2nd student satellite of IITB, technically advanced and efficient version of the 1st, Pratham

- Headed a **10 membered** inter-disciplinary team of two subdivisions, Power and On-Board Computer to design the power distribution circuit, interface with peripherals and implement the control algorithm
- Ensured implementation of **Quality Assurance Practices** to guarantee **100%** reliability
- Developed to **Satellite 101 wiki**, a compilation of basic knowledge of satellite project which reached **5.8k** page views and **1.4k** users around the globe within a month

KEY PROJECTS

Electrical Subsystem, Advitiy *Feb'17-Present*

- Critically analyzed various parameters and constraints to **finalize the microcontroller** of On Board Computer
- Proposed the use of **Real Time Operating System** (RTOS) to carry out the scheduling of tasks being run on the On Board Computer and conceptualized a **scheduling algorithm** for the same
- Performed **functionality test** on flight hardware of Pratham to get familiar with source code and it's peripherals

Encrypted Audio Transmission using Chaotic Circuits *Apr'18*

Guide: Prof. Siddharth Tallur, Electrical Engineering *Course Project*

- Designed and implemented a third order **chaotic oscillator** for encryption and decryption of audio signals
- Encrypted audio signal using **white noise** created by the chaotic transmitting oscillator
- Coupled receiver with transmitter circuit to produce the same **unique chaotic noise** in order to recover the signal

Lazy Lock: Automatic Lock *May'17-Jan'17*

Institute Technical Summer Project

- Designed and implemented an automated door unlocking mechanism which unlocks by **gesture detection**, **knock pattern** and remotely from an **android app** along with a Do not Disturb (DND) option
- Implemented **Image Processing** algorithms using **OpenCV** on **RaspberryPi** for gesture recognition
- Improved gesture recognition accuracy by employing **Machine Learning** using **scikit-learn** in python

TECHNICAL SKILLS

- **Languages:** Google Go, SQL, VHDL, C, C++, Python, Embedded C, Java
- **Softwares:** MATLAB, Android Studio, Quartus, GNURadio, Git, NGSPICE, Atmel Studio

EXTRA CURRICULAR ACTIVITIES

- Volunteered in **NGO Vidya** for tutoring financially and socially underprivileged
- Taught English to college kitchen staff as a part of **Adult Literacy Program (ALP)**, NSS
- Successfully completed **Mountaineering Adventure Course (MAC)** which is affiliated to Government Of India